

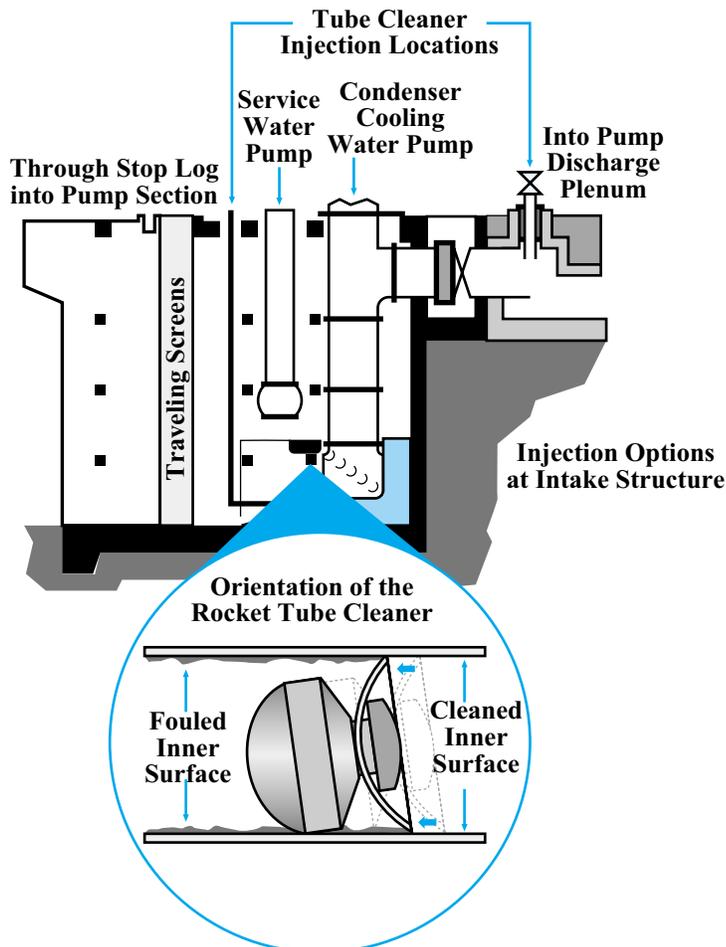
SIDTEC™ Condenser Maintenance Program



New Condenser Tube Cleaning Technology Removes both Soft and Hard Deposits

With assistance from the Department of Energy's Inventions and Innovation Program, Superior I.D. Tube Cleaners (SIDTEC) Inc. invented the SIDTEC mechanical on-line condenser maintenance service program for thermal power plants. In power plants that use surface water to cool condensers, waterborne debris and microorganisms accumulate on strainers and pipes, reducing water flow and the condenser's heat transfer ability. Condensers must be cleaned regularly to maintain system efficiency and to keep the power plant operating.

The SIDTEC program incorporates a two-part tube cleaner and a recovery system. The cleaning elements, or Rockets™, are injected into the condenser cooling water system, conveyed through the condenser tubes with the normal flow of water, and recovered in the discharge. The cleaning element contacts the tube surfaces, wiping away mud, silt, and biofouling deposits. Near-neutral buoyancy ensures even distribution throughout all condenser tubes. The product replaces conventional cleaning systems, such as automatic tube-cleaning systems or sponge balls; chemicals used to clean the condensers; and off-line mechanical tube-cleaning, which is costly in manpower and lost generation while the unit is off-line.



On-line Condenser Tube Cleaner

Overview

- ◆ Invented by James Echols of Superior I.D. Tube Cleaners (SIDTEC) Inc. and licensed to GE Infrastructure Water and Process Technologies
- ◆ Commercialized in 1992
- ◆ 12 plants currently under long-term contracts valued at almost \$2.8 million annually in the United States

Energy Savings (Trillion Btu)

Cumulative through 2003	2003
136	19.4

Emissions Reductions (Thousand Tons, 2003)

Particulates	SO _x	NO _x	Carbon
0.087	4.19	3.12	381

Applications

Maintaining waterside tube cleanliness in the main steam condenser in thermal power plants

Capabilities

- ◆ Mechanically removes condenser tube deposits using proprietary, ultra-high molecular weight polyethylene Rocket tube cleaners.
- ◆ Near-neutral buoyancy provides even distribution through all condenser tubes.
- ◆ Design handles both soft and hard deposits using nonabrasive or abrasive cleaning elements.
- ◆ Skimming recovery systems have greater than 99.95% efficiency and require no downtime for skimming system installation.

Benefits

Profitability

Potential savings for one 500-MW plant are \$350,000 annually.

Reliability

Rocket tube cleaners do not impact circulating water pump performance.